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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,947	05/25/2001	Mikko J Rinne	P278096	9586
909	7590	08/24/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			MEW, KEVIN D	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	

2664

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,947

Applicant(s)

RINNE, MIKKO J

Examiner

Kevin Mew

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 10-13 is/are rejected.
- 7) ☒ Claim(s) 6,8,9 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1 & 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

*Detailed Action**Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1-5, 7, 10-13** are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art, Nishimura (USP 5,570,362).

Regarding claim 1, Nishimura discloses a data segmentation method in a telecommunications system, characterized by the steps of segmenting larger data units of a higher layer into smaller protocol data units (PDU) of a lower layer (**breaking down CS-PDU layer into multiple of minimum unit of transfer; note that CS-PDU corresponds to a higher layer**, see lines 38-46, col. 6) so that each lower layer PDU (SAR-PDU) comprises one or more data segments (**each SAR-PDU is a whole multiple of the minimum unit of transfer**, see lines 38-46, col. 6; note that minimum units of transfer is interpreted as the data segments and SAR-PDU corresponds to the lower layer PDU) each containing data from a different one of the upper layer data units (**each minimum unit of transfer contains payload data that makes up the SAR-PDU, which contains data from the CS-PDU**, see lines 38-61, col. 6), providing the lower layer protocol data units (SAR-PDU) containing two or more data segments (**a multiple of the minimum units of transfer with each unit of transfer comprises 6 octets**, see lines 43-46, col. 6), with segmentation length information which indicates the length of the data segments (**length indication L1 showing the length of the effective**

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information of the SAR-PDU payload and the SAR-PDU payload comprises of multiple of minimum unit of transfer or data segments, see lines 43-46, 64-67, col. 6), indicating with predetermined values of the segmentation length information special information about the higher level PDU (**L1 showing the length of the effective information in the SAR-PDU payload for showing boundary between effective data and ineffective data; note that effective data corresponds to the payload accommodated for the CS-PDU**, see lines 64-67, col. 6), transmitting the lower level PDUs to a receiving end, assembling the segmented higher level data unit at the receiving end by means of the segmentation length information (**assemble CS-PDU payload from the SAR-PDU by performing processing at the SAR layer control unit and the convergence sublayer control unit by using the length of information shown by the LI in the SAR header**, see lines 54-67, col. 11 and lines 1-2, col. 12).

Regarding claim 2, Nishimura discloses the method as claimed in claim 1, characterized by said special information including indication whether the higher layer data unit ends in the current data segment or continues to the next lower level PDU (**the length indicator LI showing the length of the effective information in the SAR-PDU payload for showing the boundary between effective data and ineffective data, which shows the ending position of the last minimum unit of transfer in SAR-PDU and hence indicates whether the CS-PDU payload will continue to next minimum unit of transfer or end in the current minimum unit of transfer**, see lines 64-67, col. 6).

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Regarding claim 3, Nishimura discloses the method as claimed in claim 1 or 2, characterized by the step of indicating with a predetermined value of the segmentation length information that the rest of the lower level PDU contains padding until the next segmentation length information or to the next lower level PDU (**a length indicator LI in the payload of the SAR-PDU shows the length of the effective information for showing the boundary between the effective data and ineffective data; note that ineffective data corresponds to the padding added to the SAR-PDU payload, see lines 47-53, 64-67, col. 6).**

Regarding claim 4, Nishimura discloses the method as claimed in claim 1, 2 or 3, characterized by the step of indicating with the segmentation length information pointing exactly to the end of the lower layer PDU that the higher layer data unit ends (**a length indicator L1 in the payload of the SAR-PDU shows the length of the effective information for showing the boundary between the effective data and ineffective data, see lines 47-53, 64-67, col. 6; note that the ending position of the effective data corresponds to the end of the SAR-PDU layer, the lower layer PDU).**

Regarding claim 5, Nishimura discloses the method as claimed in claim 1, 2, 3 or 4, characterized by the step of indicating with a predetermined value of the segmentation length information that the higher layer data unit carried in the current data segment continues to the next lower level PDU (**the length indicator LI showing the length of the effective information in the SAR-PDU payload for showing the boundary between effective data and ineffective data, which shows the ending position of the**

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last minimum unit of transfer in SAR-PDU and hence indicates whether the CS-PDU payload will continue to next minimum unit of transfer or end in the current minimum unit of transfer, see lines 47-53, 64-67, col. 6).

Regarding claim 7, Nishimura discloses the method as claimed in claims 1, characterized by the step of providing segmentation information in a lower layer PDU which contains data only from a single one of the higher layer data units and padding (see lines 40-53, 64-67, col. 6).

Regarding claim 10, Nishimura discloses a telecommunications system, characterized by an upper protocol layer (L3, RRC;LAC) (**CS-PDU layer**) comprising data units (SDU) (**SAR-PDU units**),

a lower protocol layer (L2, RLC) (**SAR-PDU layer**) comprising protocol data unit (PDU) (**minimum unit of transfer**) having a payload size (**each minimum unit of transfer is between 6 and 8 octets**, see lines 21-25, col. 2 and Fig. 11A) smaller than said upper layer data units (SDU) (**CS-PDU layer payload**, accommodated by SAR-PDU, has a length of a whole multiple of the minimum unit of transfer, see lines 38-46, col. 6), means segmenting said upper layer data units (SDU) (CS-PDU) for insertion into smaller protocol data units (PDU) of a lower Layer (**multiple of minimum unit of transfer of SAR-PDU**) so that each lower layer PDU (**each SAR-PDU**) comprises one or more data segments (**each SAR-PDU comprises a whole multiple of minimum unit of transfer**, see lines 43-46, col. 6) each containing data from a different one of the upper

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layer data units (SDU) (**each minimum unit of transfer contains data that come from CS-PDU**, see lines 38-46, col. 6),

means for inserting a segmentation length information (LI) which indicates the length of the data segments at least in the lower layer PDUs containing two or more data segments (**length indication L1 showing the length of the effective information of the SAR-PDU payload**, which comprises of multiple of minimum unit of transfer or data segments, see lines 64-67, col. 6),

means for giving a predetermined value in the segmentation length information (LI) in order to provide a receiver with special information about the higher Level data unit (SDU) (**L1 showing the length of the effective information in the SAR-PDU payload for showing boundary between effective data and ineffective data**, see lines 43-46, 64-67, col. 6; note that effective data corresponds to the payload accommodated for the CS-PDU),

means for assembling the segmented higher level data unit (SDU) from received lower layer PDUs at the receiver by means of the segmentation length information in said PDUs (**assemble CS-PDU payload from the SAR-PDU by performing processing at the SAR layer control unit and the convergence sublayer control unit by using the length of information shown by the LI in the SAR header**, see lines 54-67, col. 11 and lines 1-2, col. 12).

Regarding claim 11, Nishimura discloses the system as claimed in claim 10, characterized by a predetermined value of the segmentation length information (LI) indicating to the receiver that the rest of the lower level PDU contains padding until the

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next segmentation length information or to the next lower Level PDU (**a length indicator LI in the payload of the SAR-PDU shows the length of the effective information for showing the boundary between the effective data and ineffective data; note that ineffective data corresponds to the padding added to the SAR-PDU payload, see lines 47-53, 64-67, col. 6).**

Regarding claim 12, Nishimura discloses the system as claimed in claim 10 or 11, characterized by a predetermined value of the segmentation length information (LI) indicating to the receiver that the higher layer data unit (SDU) carried in the current data segment continues to the next lower Level PDU (**the length indicator LI showing the length of the effective information in the SAR-PDU payload for showing the boundary between effective data and ineffective data, which shows the ending position of the last minimum unit of transfer in SAR-PDU and hence indicates whether the CS-PDU payload will continue to next minimum unit of transfer or end in the current minimum unit of transfer, see lines 47-53, 64-67, col. 6).**

Regarding claim 13, Nishimura discloses the system as claimed in claim 10, 11 or 12, characterized by segmentation length information (LI) pointing exactly to the end of the lower layer PDU being defined to the receiver that the higher layer data unit (SDU) ends (**a length indicator LI in the payload of the SAR-PDU shows the length of the effective information for showing the boundary between the effective data and ineffective data, see lines 47-53, col. 6; note that the ending position of the effective data corresponds to the end of the SAR-PDU layer, the lower layer PDU).**

Allowable Subject Matter

2. Claims 6, 8-9, 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In claim 6, the method as claimed in any one of claims 1-5, characterized by the step of providing no segmentation information in a lower layer PDU which contains data only from a single one of the higher layer data units and contain no padding.

In claim 8, the method as claimed in any one of claims 1-7, characterized by the steps of providing each lower level PDU with two or more payload units of a predetermined length, the payload unit being the smallest unit in a retransmission protocol employed, carrying said segmented higher layer data units in said payload units, in the beginning of one or providing a segmentation indicator field more of the payload units in the tower level PDU, if required, indicating in the header of the lower layer PDU which one or ones, if any, of the payload units contain the segmentation length information.

In claim 9, the method as claimed in any of claims 1-8, characterized by the step of providing a segmentation indicator field in the beginning of the first one of the payload units for indicating segmentation information for all segments in the lower level PDU, if required.

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In claim 14, the system as claimed in any one of claims 10-13, characterized by two or more payload units (PU) of a predetermined length in each lower level PDU with two or more payload units of a predetermined length for carrying said segmented higher layer data units (SDU), the payload unit being the smallest unit in a retransmission protocol employed, a segmentation indicator field (LI) in the beginning of one or more of the payload units in the lower level PDU, if required, at least one indicator (D) in the header of the lower layer PDU for indicating which one or ones, if any, of the payload units (PU) contain the segmentation length information (LI).

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Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 703-305-5300.

The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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